



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,282	08/15/2001	Finn Wredenhagen	1020457.0012	8113
20575	7590	06/21/2006	EXAMINER	
MARGER JOHNSON & MCCOLLOM, P.C. 210 SW MORRISON STREET, SUITE 400 PORTLAND, OR 97204			LE, BRIAN Q	
			ART UNIT	PAPER NUMBER
			2624	

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/929,282

Applicant(s)

WREDENHAGEN ET AL.

Examiner

Brian Q. Le

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/04/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Response to Amendment and Arguments

1. Applicant's amendment filed May 04, 2006, has been entered and made of record.
2. Applicant's arguments with regard to claims 7 and 18 have been fully considered, but are not considered persuasive because of the following reasons:

Regarding claim 7, the Applicant argues (page 5 of the Remarks) that Takahashi does not disclose a feature extractor to populate a feature table by identifying image features in a pixel array because the Applicant believes that edge templates are predetermined or previously existing. The Examiner respectfully disagrees. First, the Applicant assumed that templates are predetermined or previously existed without factual evidence. Template can be produced during processing as well as predetermined. Furthermore, other image features such as edge vector and color vector (abstract) in Takahashi's reference beside image template can be read as image features for this limitation.

Regarding claim 18, the Applicant argues (top of page 6) that Takahashi does not disclose the limitation "match table by matching features in the matching table". The Examiner respectfully disagrees. Takahashi teaches at column 16, lines 55-67 and column 16, lines 1-10.

To further assist the Applicant with the guidance with claim language interpretations so that the Applicant can add further/more details limitations from the specification to the claims to overcome the prior arts, the Examiner is presenting MPEP, section 2111, Claim Interpretation; Broadest Reasonable Interpretation as follow: "The court explained that "reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from reading limitations of the specification into a claim," to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the

Art Unit: 2624

claim.” The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the “PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant’s specification.””).

Thus, the rejections of all of the claims are maintained.

Claim Rejections - 35 USC § 112

3. Claims 31 and 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding claims 31 and 34, there is no support in the specification to show the disclosure of “the populating the matching table at the same time as the feature extractor populates the feature table”. Please cite the exact page and line number.

Claim Objections

4. The claims 29-30, and 32-33 recites "...feature table includes a pair-wise grouping of numbers defining a start position ..." and "...feature comparator is adapted to match like features in adjacent rows or columns in of the feature table" are not well written so that one skill in the art can understand clearly. Appropriate correction is required. The prior art rejection based on the Examiner's best understanding.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 7-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi U.S. Patent No. 6,665,439.

Regarding claim 7, Takahashi teaches an interpolator (column 18, lines 55-60), comprising:

A feature extractor (extracting outlines of objects/edge) (column 4, lines 45-50) to populate a feature table (populate/generate arrays of numeric values for edge vector) (column 5, lines 33-44) by identifying image features in a pixel array (the process of determining object's edge in a pixel's array) (column 5, lines 35-44);

A feature comparator to populate a match table by matching features in the feature table (comparing edge in the modulus edge vector) (column 5, lines 5-30).

For claim 8, Takahashi also teaches the interpolator where the image features are edges (abstract).

Referring to claim 9, Takahashi discloses the interpolator where the feature extractor is adapted to be programmable (extracted features are stored) (column 11, lines 35-45).

Regarding claim 10, Takahashi also discloses the interpolator where the image features is adapted to dynamically change according to user preference (column 20, lines 54-58).

For claim 11, Takahashi shows the interpolator where the feature extractor includes a state machine for each image feature (FIG. 1, elements 21-24).

As to claim 12, Takahashi also shows the interpolator where the feature comparator is adapted to match image features in adjacent rows of the pixel array (FIG. 2).

Also to claim 13, Takahashi further shows the interpolator where the feature comparator is adapted to match image features in adjacent columns of the pixel array (FIG. 2).

For claim 14, Takahashi teaches the interpolator comprising an alignment controller to align matched image features in the match table (successively designate pixels of the object pixel and successively obtain edge vectors correspond to object pixel) (FIG. 5, element 11).

Regarding claim 15, Takahashi shows the interpolator where the alignment controller is adapted to compute relative shifts between adjacent rows or columns (column 13, lines 20-37).

Referring to claim 16, Takahashi teaches the interpolator where the alignment controller is adapted to identify a transition segment (the changes between edge strength from weak to strong) (FIG. 9A).

Also to claim to 17, Takahashi also teaches the interpolator where the alignment controller is adapted to identify a pivot pixel (centered/strong pixel) (FIG. 9A).

For claim 18, Takahashi teaches a method for interpolating a target pixel in an array of source pixels comprising:

Populating a feature table by identifying image features in the source pixels (populate/generate arrays of numeric values for edge vector) (column 5, lines 33-44);

Populating a match table by matching features (matching moduli of edge vector) in the feature table (edge vector) (column 16, lines 55-67 and column 16, lines 1-10);

Generating a target pixel responsive to the matching (derive/object pixel) (abstract and column 16, lines 55-67).

For claims 19-28, please refer back to claims 8-17 respectively for the teachings and explanations.

Regarding claim 29, Takahashi teaches the interpolator where the feature table includes a pair-wise grouping of numbers defining a start position (range from a minimum value) and intensity for each of the image features identified (column 27, lines 6-12).

Referring to claim 30, Takahashi teaches the interpolator where the feature comparator is adapted to match like features in adjacent rows or columns of the feature table (matching in surrounding adjacent pixels or regions) (abstract and FIG. 37, element 72).

For claim 31, Takahashi teaches the interpolator where the feature comparator is adapted to populated the match table at about the same time as the feature extractor populates the feature table (the continuing processing of updating edge vector while the moduli of the edge vector is matching) (FIG. 11 and column 16, lines 35-67).

Art Unit: 2624

Regarding claims 32-34, please refer back to claims 29-31 for further teachings and explanations.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

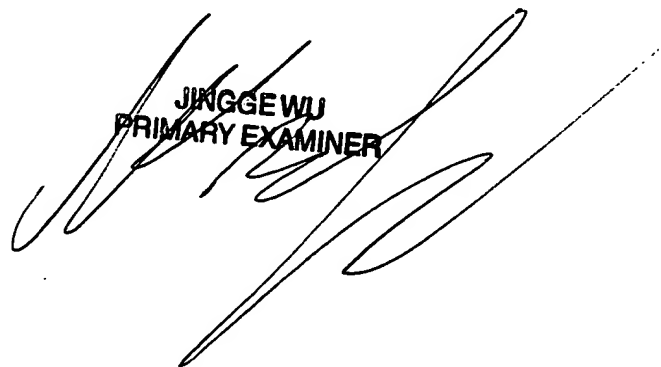
Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q. Le whose telephone number is 571-272-7424. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BL
June 14, 2006


JINGGE WU
PRIMARY EXAMINER